

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 18 April 2008 has been entered.

Information Disclosure Statement

2. The information disclosure statement filed 7 November 2007 has been acknowledged and considered.

Response to Arguments

3. The remarks pertaining to claim 20 have been considered but are found not persuasive. In regard to claim 20, the Applicant asserts that the magnets described by the Antaki reference apply a radial repulsion force, and not an axial repulsion force as claimed in the amendment to claim 20. The Examiner respectfully disagrees with the Applicant's assertion in that the Applicant does not provide any support from the Antaki reference as to why the magnets describes by Antaki perform differently than the magnets of the present invention. Figure 31 of Antaki depicts permanent magnets 292 and 294 being aligned in a manner such that the pole first magnet 294 faces the same

pole of the second magnet 292, just as claimed in claim 20. The Examiner considers the newly added recitation for the repulsion force to be "in an axial direction of the axial body" to be a recitation of the intended use. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

4. Applicant's arguments with respect to claim 21 have been fully considered and are persuasive. The rejection of claim 21 has been withdrawn.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 20 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Antaki et al. (US Patent no. 6,015,272).

7. The Examiner maintains the rejections under 35 U.S.C. 102(b) as made in the previous Office action. The text of those rejections is re-presented below.

In regard to claim 20, Antaki et al. describe a rotary fluid pump with a magnetically suspended impeller for use as a ventricular assist in pumping blood, col 1 lines 25-27. The pump includes a housing 324 (see figure 34 and column 17 line 53 –

column 18 line 15); an axial body fixed in said housing 320; an impeller 322 arranged so as to be rotatable around said axial body, said axial body extending through said impeller; a driving mechanism 346 and 348 for rotating said impeller such that blood taken in from a front side of said impeller is force-fed to a rear side of said impeller along an axial direction of said impeller; a front-side fixed body connected to a front side of said axial body (fixed body 320 having front side 326); a rear-side fixed body connected to a rear side of said axial body (fixed body 320 having rear side 328) such that said axial body is sandwiched between said front-side fixed body and said rear-side fixed body; a straightening board 332 protruding from an inner wall of said housing at the front side of said impeller, said front-side fixed body being fixed at said straightening board; and a board-shaped diffuser 334 protruding from said inner wall of said housing at the rear side of said impeller 322, said rear-side fixed body being fixed at said board-shaped diffuser, wherein said impeller forms a sleeve and impeller wing-components 360 protruding from an outer peripheral surface of said sleeve, said sleeve being arranged such that an inner peripheral surface of said sleeve faces an outer peripheral surface of said axial body across a micro gap 364 and 327, a front-end surface of said sleeve faces a rear-end surface of said front-side fixed body across a micro gap 364 and 327, and such that a rear-end surface of said sleeve faces a front-end surface of said rear-side fixed body across a micro gap 364 and 327; wherein said driving mechanism 346 and 348 comprises polar anisotropic permanent magnets 329 and 331 installed in said sleeve and a rotary magnetic flux generator 346 and 348 installed in said housing so as to surround an outer peripheral portion of said impeller, and wherein

said sleeve includes a first magnet arranged 331 to face said rear-end surface of said front-side fixed body, and said from-side fixed body includes a second magnet 329 arranged to face said front-end surface of said sleeve, said first and second magnets being arranged such that a pole of said first magnet faces a same pole of said second magnet so as to produce a repulsion force between said first magnet and said second magnet (this arrangement is depicted in figures 6 and 34).

In regard to claim 23, Antaki et al. teaches that it is known in the art that the permanent magnets can be ring shaped, col 2 lines 21-29.

Allowable Subject Matter

8. Claim 21 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian T. Gedeon whose telephone number is (571) 272-3447. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl H. Layno can be reached on (571) 272-4949. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3766

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Carl H. Layno/
Supervisory Patent Examiner, Art Unit 3766

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